

09/689 817

Serial No. 09/689,817
WAK.066

3

IN THE SPECIFICATION:

Please cancel paragraph the paragraph on page 2, lines 2-25 and replace with the following paragraph:

In the above production method, however, during the drying of the coating film of electrode mixture formed on the current collector, the solvent contained in the coating film vaporizes, which incurs the contraction of the film and often generates cracks in the film. This phenomenon is more striking when the coating film is formed in a larger thickness; therefore, it is difficult to form a thick film. A large amount of the electrode active material is required in order to allow the produced battery to have a high energy density (i.e. a large energy per battery volume). In the above production method, the volume of the current collector in the battery is inevitably large; therefore, it is difficult to increase the amount of the active material to a level higher than now, within the restraint of limited battery volume. Thus, in the conventional production method, it has been difficult to further enhance the energy density of a battery using a polymer active material.

Conventional batteries have other problems. That is, they use a polyvinylidene fluoride, a polytetrafluoroethylene or the like as the binder. With such a binder, the surface of the polymer active material is covered with the binder and a thin film of the binder is formed on the surface of the current collector. Consequently, the battery has an increased electrical resistance and a decreased power density.

Please cancel paragraph the paragraph on page 3, lines 1-3 and replace with the following paragraph:

Conventional batteries still have other problems. That is, the electrode of battery has

A 3

09/689817

Serial No. 09/689,817
WAK.066

4

A³
been limited to a sheet type, which limits the freedom of battery designing.

Please cancel paragraph the paragraph on page 3, line 19-page 4, line 1 and replace with the following paragraph:

A⁴
In view of the above-mentioned problem of the prior art, the object of the present invention is to provide a secondary battery using a polymer active material, which has a high energy density and a high power density and which permits significant freedom in battery designing. The another object of the present invention is to provide a method for producing a secondary battery of large energy density and large power density in a high freedom for battery designing, using a polymer active material.

Please cancel paragraph the paragraph on page 11, line 10-24 and replace with the following paragraph:

A⁵
In the present invention, the mold of the molded electrode can be a one-piece electrode in which an electrode material is provided on the both sides of a current collector sheet, as shown in Fig. 2. In this case, the thickness (d_3) of the electrode material on the other side of the current collector can be set at the same level as (d_1); however, as long as a desired volume ratio is satisfied, it is possible that (d_1) is set in the above-mentioned range and (d_1) is set at 300 μm or less. Such a one-piece electrode mode in which an electrode material is provided on the both sides of a current collector sheet, is effectively used, for example, when this electrode is placed in the middle and two opposite electrodes are placed so as to surround the former electrode, or when a positive electrode and a negative electrode are laminated.